



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,170	12/09/2005	Hiroshi Kawakami	283070US90PCT	8318
22850	7590	04/17/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER RUSSELL, WANDA Z	
			ART UNIT	PAPER NUMBER
			2616	
			NOTIFICATION DATE	DELIVERY MODE
			04/17/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,170	<b>Applicant(s)</b> KAWAKAMI, HIROSHI	
	<b>Examiner</b> WANDA Z. RUSSELL	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

### DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-5** rejected under 35 U.S.C. 103(a) as being unpatentable over Miya (Pub No. US 2003/0171118 A1), in view of Cheng et al. (Pub No. US 2004/0018846).

For **claim 1**, Miya suggests a packet communication method (a method for efficient transmission of high-speed packets, refer to [0131], lines 2-3) comprising the steps of:

establishing a radio layer 2 connection based on a radio layer 2 protocol (it is obvious that the connection between a mobile station and a controller device is in layer 2) between a mobile station (mobile station MS in Fig. 2) and a controller device (base station BTS1 and radio network controller RNC in Fig. 1);

determining a transmission timing (managing the transmission timing, refer to [0132], line 2) of a received data packet (channels which receive packets, refer to [0132], line 3, and packets, refer to [0131], line 3), based on a quality of service set in the data packet (in accordance with the quality of communication services, refer to [0132], lines 5-7); and

multiplexing (multiplexer in Fig. 1, and refer to [0131], line 5), at the determined transmission timing (again, managing the transmission timing, refer to [0132], line 2),

the data packet into a radio layer 2 protocol data unit which is transmitted and received on the radio layer 2 connection.

However, Miya fails to specifically teach that the connection is a layer 2 connection, and the data packet into a radio layer 2 protocol data unit of a fixed length.

Cheng et al. teach that the connection is a layer 2 connection (refer to Fig. 2 regarding layer 2 for multiplexing and QoS delivery), and the data packet into a radio layer 2 protocol data unit of a fixed length (Fig. 4 shows protocol data unit of a fixed length).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Miya with Cheng et al. to obtain the invention as specified, for more accurate control of the communication system and method.

For **claim 2**, Miya suggests a controller device (BTS1 and RNC –Fig. 1) comprising:

a radio layer 2 connection (it is obvious that the connection between a mobile station and a controller device is in layer 2) establishing unit (a controller device and link to a mobile station) configured to establish, with a mobile station, a radio layer 2 connection based on a radio layer 2 protocol (in accordance with the quality of communication services, refer to [0132], lines 5-7);

a transmission timing determining unit (RNC-Fig. 1, and managing the transmission timing, refer to [0132], lines 1-2) configured to determine a transmission

timing of a received data packet, based on a quality of service set in the data packet;  
and

a multiplexing unit (126-Fig. 1) configured to multiplex, at the determined transmission timing, the data packet into a radio layer 2 protocol data unit of a fixed length which is transmitted and received on the radio layer 2 connection.

However, Miya fails to specifically teach that the connection is a layer 2 connection, and the data packet into a radio layer 2 protocol data unit of a fixed length.

Cheng et al. teach that the connection is a layer 2 connection (refer to Fig. 2 regarding layer 2 for multiplexing and QoS delivery), and the data packet into a radio layer 2 protocol data unit of a fixed length (Fig. 4 shows protocol data unit of a fixed length).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Miya with Cheng et al. to obtain the invention as specified, for more accurate control of the communication system and method.

For **claim 3**, Miya and Cheng et al. teach everything claimed as applied above (see independent claim 2). In addition, Miya teaches the controller device as set forth in claim 2 further comprising a transmitting unit (121-Fig. 1) configured to transmit, by a transport technology, the radio layer 2 protocol data unit into which the data packet is multiplexed (Fig. 1).

For **claim 4**, Miya suggests a mobile station comprising:

a radio layer 2 connection (it is obvious that the connection between a mobile station and a controller device is in layer 2) establishing unit (a mobile station and link to a controller device) configured to establish, with a mobile station, a radio layer 2 connection based on a radio layer 2 protocol;

a transmission timing determining unit (RNC-Fig. 1, and managing the transmission timing, refer to [0132], lines 1-2) configured to determine a transmission timing of a received data packet, based on a quality of service set in the data packet (in accordance with the quality of communication services, refer to [0132], lines 5-7); and

a multiplexing unit (126-Fig. 1) configured to multiplex, at the determined transmission timing, the data packet into a radio layer 2 protocol data unit of a fixed length which is transmitted and received on the radio layer 2 connection.

However, Miya fails to specifically teach that the connection is a layer 2 connection, and the data packet into a radio layer 2 protocol data unit of a fixed length.

Cheng et al. teach that the connection is a layer 2 connection (refer to Fig. 2 regarding layer 2 for multiplexing and QoS delivery), and the data packet into a radio layer 2 protocol data unit of a fixed length (Fig. 4 shows protocol data unit of a fixed length).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Miya with Cheng et al. to obtain the invention as specified, for more accurate control of the communication system and method.

For **claim 5**, it is a mobile station claim corresponding to controller device independent claim 3, therefore it is rejected for the same reason above.

3. **Claims 6-8** rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (Pub No. US 2003/0174689 A1), in view of Cheng et al. (Pub No. US 2004/0018846).

For **claim 6**, Fujino suggests a packet communication method (packet radio service, refer to [0002]) comprising the steps of:

at a mobile station, establishing a radio layer 2 connection based on a radio layer 2 protocol (it is obvious that the connection at a mobile station is in layer 2);

establishing a plurality of tunneling connections between two or more controller devices (each radio network controller RNC constitutes a starting point and a terminal point of a GTP encapsulating using the GPRS tunneling protocol (GTP), refer to [0033], lines 3-5, and Fig. 8); and

at a first controller device, referring to a terminal address included in a data packet (subscriber data, [0011], line 2; destination table, [0034], lines 1-4; and Fig. 2)

which is multiplexed on the radio layer 2 connection (Fig. 2) and transmitted from the mobile station (Fig. 2), and relaying the data packet through a tunneling connection associated with the terminal address (Fig. 2 & 8).

However, Fujino fails to specifically teach that the connection is a layer 2 connection.

Cheng et al. teach that the connection is a layer 2 connection (refer to Fig. 2 for layer 2 indication).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Fujino with Cheng et al. to obtain the invention as specified, for more accurate control of the communication system and method.

For **claim 7**, Fujino and Cheng et al. teach everything claimed as applied above (see claim 6). In addition, Fujino teaches the packet communication method as set forth in claim 6 further comprising the steps of:

at the mobile station, transmitting a communication start request (Fig. 2, and [0033], lines 8-11);

at the first controller device, transmitting a tunneling connection establishment request to a second controller device in accordance with the communication start request ((each radio network controller RNC constitutes a starting point and a terminal point of a GTP encapsulating using the GPRS tunneling protocol (GTP), refer to [0033], lines 3-5);



at the second controller device, establishing a tunneling connection with the first controller device in accordance with the tunneling connection establishment request ([0033], lines 3-5), and associating the established tunneling connection with the terminal address (subscriber data, [0011], line 2; destination table, [0034], lines 1-4; and Fig. 2); and

communicating the associated terminal address to the mobile station (Fig. 2, and [0034], lines 1-4).

For **claim 8**, it is a controller device (RNC) claim corresponding to method claim 6, therefore it is rejected for the same reason above.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WANDA Z. RUSSELL whose telephone number is (571)270-1796. The examiner can normally be reached on Monday-Thursday 9:00-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 2616

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Seema S. Rao/  
Supervisory Patent Examiner,  
Art Unit 2616

WZR/Wanda Z Russell/  
Examiner, Art Unit 2616